National Institute of Environmental Health Sciences

Biodiversity and influence of climatic factors on mosquitoes (Diptera: Culicidae) around the Peixe Angical hydroelectric scheme in the state of Tocantins, Brazil

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Year: 2010
Journal: Memorias Do Instituto Oswaldo Cruz. 105 (2): 155-162

Abstract:

The influence of climatic factors on the seasonal frequency of mosquitoes (Diptera: Culicidae) at the Peixe Angical hydroelectric scheme (Tocantins, Brazil) was evaluated in the present paper. Mosquito surveys were conducted in the municipality of Peixe and in areas surrounding the reservoir in the municipalities of Parana and Sao Salvador do Tocantins during two daytime periods (10 am-12 noon and 2 pm-4 pm) and two night-time periods (6 pm-8 pm and 6 pm-10 am) over 14 months. In total, 10,840 specimens from 42 species were captured, 84.5% of which belonged to the Culcinae. The most common species were Anopheles darlingi, Psorophora albipes and Sabethes chloropterus. The number of Culicidae specimens was higher in months with higher rainfall and air humidity than during the drier months. The large population of Ps. albipes and the presence of both An. darlingi (primary vector for human malaria parasites) and Haemagogus janthinomys (primary vector for yellow fever virus) are highlighted.

Source: http://dx.doi.org/10.1590/s0074-02762010000200008

Resource Description

Exposure : ☒

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Meteorological Factors, Precipitation

Geographic Feature: ☒

resource focuses on specific type of geography

Freshwater

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Central/South America

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: General Mosquito-borne Disease

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content